What is claimed is:

1. An image projection system comprising:

(I) an illumination system which produces polarized illumination light having a first polarization direction;

(II) a reflective imaging device which receives polarized illumination light and produces modulated reflected light by changing the polarization direction of selected portions of the received light to a second polarization direction;

(III) a projection lens; and

(IV) a prism assembly which comprises an input prism, an output prism, and a polarizer between the input and output prisms,

wherein:

(A) the input prism comprises:

(i) a first surface which receives polarized illumination light from the illumination system;

(ii) a second surface which provides polarized illumination light to the imaging device and receives modulated reflected light from the imaging device; and

(iii) a third surface which faces the output prism;

(B) the output prism comprises:

(i) a first surface which faces the input prism and is parallel to the third surface of the input prism; and

(ii) a second surface which provides light to the projection lens to form a projected image; and

(C) the polarizer:

(i) is between the third surface of the input prism and the first surface of the output prism; and

(ii) reflects light having the first polarization direction and transmits light having the second polarization direction;

wherein the polarized illumination light has an optical path which comprises:

(i) inward transmission through the first surface of the input prism;

(ii) total internal reflection at the second surface of the input prism;

(iii) outward transmission through the third surface of the input prism;

(iv) reflection from the polarizer;

(v) inward transmission through the third surface of the input prism; and

(vi) outward transmission through the second surface of the input prism.

2. The image projection system of Claim 1 wherein:

(i) the projection lens has an f-number F_{No};

(ii) the input prism is composed of a material which has an index of refraction n_1; and

(iii) the second and third surfaces of the input prism have an internal angle of intersection β which satisfies the relationship:

$$\beta \geq 0.5 \bullet (\gamma + \alpha),$$

where:

$$\gamma = \sin^{-1}(1/(2 \bullet n_1 \bullet F_{No})), \text{ and}$$

$$\alpha = \sin^{-1}(1/n_1).$$

3. The image projection system of Claim 1 wherein:

(i) the projection lens has an f-number F_{No};

(ii) the input prism is composed of a material which has an index of refraction n_1; and

(iii) the second and third surfaces of the input prism have an internal angle of intersection β which satisfies the relationship:

$$\beta \leq \alpha - \gamma,$$

where:

$$\gamma = \sin^{-1}(1/(2 \bullet n_1 \bullet F_{No})), \text{ and}$$

$$\alpha = \sin^{-1}(1/n_1).$$

4. The image projection system of Claim 1 wherein:

(i) the projection lens has an f-number F_{No};

(ii) the input prism is composed of a material which has an index of refraction n_1; and

(iii) the second and third surfaces of the input prism have an internal angle of intersection β which satisfies the relationship:

$$\alpha - \gamma \geq \beta \geq 0.5 \bullet (\gamma + \alpha),$$

where:

$\gamma = \sin^{-1}(1/(2 \bullet n_1 \bullet F_{No}))$, and

$\alpha = \sin^{-1}(1/n_1)$.

5. The image projection system of Claim 1 wherein:

(i) the projection lens has an f-number F_{No};

(ii) the input prism is composed of a material which has an index of refraction n_1; and

(iii) the second and third surfaces of the input prism have an internal angle of intersection β which satisfies the relationship:

$$\beta \geq \gamma + \theta,$$

where θ is the minimum angle of incidence for light impinging on the polarizer that provides a contrast of 1000:1, and

$$\gamma = \sin^{-1}(1/(2 \bullet n_1 \bullet F_{No})).$$

6. The image projection system of Claim 1 wherein the second and third surfaces of the input prism have an internal angle of intersection which is less than 45°.

7. The image projection system of Claim 1 wherein the first, second, and third surfaces of the input prism are arranged so that the first surface is the mirror reflection of the third surface from the second surface.

8. The image projection system of Claim 1 wherein the second surfaces of the input and output prisms are parallel.

9. The image projection system of Claim 1 wherein the polarizer is a Cartesian polarizer.

10. The image projection system of Claim 1 wherein the polarizer is a wire grid polarizer.

11. The image projection system of Claim 1 wherein the polarizer is a multi-layer reflective polarizer.

12. The image projection system of Claim 1 wherein the system comprises an index matching layer between the polarizer and the third surface of the input prism.

13. The image projection system of Claim 12 wherein the index matching layer is an optical cement.

14. The image projection system of Claim 1 wherein the system comprises an index matching layer between the polarizer and the first surface of the output prism.

15. The image projection system of Claim 14 wherein the index matching layer is an optical cement.

16. The image projection system of Claim 1 wherein the second surface of the input prism comprises a coating for compensating for phase variations in the polarized illumination light which result from the total internal reflection of that light at the second surface.

17. The image projection system of Claim 1 wherein the polarizer is air spaced from third surface of the input prism and the third surface comprises a coating for compensating for phase variations in the polarized illumination light which result from the transmission of that light through that surface.

18. The image projection system of Claim 1 wherein the second surface of the output prism and/or the second surface of the input prism has a cylindrical shape which compensates for astigmatism introduced into the projected image as the light for that image passes through the materials comprising the polarizer and any other materials located between the input prism and the output prism.

19. The image projection system of Claim 1 wherein the first surface comprises a portion of the second surface and the input prism comprises a fourth surface at which the polarized illumination light undergoes reflection before undergoing total internal reflection at the second surface.

20. A prism assembly which comprises an input prism, an output prism, and a polarizer between the input and output prisms, where:

(A) the input prism comprises:

(i) a first surface which is configured and arranged to receive polarized illumination light from an illumination system;

(ii) a second surface which is configured and arranged to provide polarized illumination light to an imaging device and to receive modulated reflected light from the imaging device; and

(iii) a third surface which faces the output prism;

(B) the output prism comprises:

(i) a first surface which faces the input prism and is parallel to the third surface of the input prism; and

(ii) a second surface which is configured and arranged to provide light to a projection lens to form a projected image; and

(C) the polarizer:

(i) is between the third surface of the input prism and the first surface of the output prism; and

(ii) reflects light having a first polarization direction and transmits light having a second polarization direction;

wherein the polarized illumination light has an optical path which comprises:

(i) inward transmission through the first surface of the input prism;

(ii) total internal reflection at the second surface of the input prism;

(iii) outward transmission through the third surface of the input prism;

(iv) reflection from the polarizer;

(v) inward transmission through the third surface of the input prism; and

(vi) outward transmission through the second surface of the input prism.

21. A method for producing an image using a polarizer which reflects light of a first polarization and transmits light of a second polarization, said method comprising in order:

(1) providing polarized illumination light having a first polarization direction;

(2) introducing the polarized illumination light into a prism having a plurality of surfaces;

(3) changing the direction of the polarized illumination light through total internal reflection at one of the prism's surfaces;

(4) reflecting the polarized illumination light from the polarizer;

(5) modulating the polarization of the polarized illumination light at a reflective imaging device by changing the polarization of selected portions of that light to the second polarization, said selected portions comprising the light which forms the image; and

(6) transmitting the selected portions through the polarizer and to a projection lens to form the image.

22. A method for producing an image using a polarizer which reflects light of a first polarization and transmits light of a second polarization, said method comprising in order:

(1) providing polarized illumination light having the second polarization direction;

(2) transmitting the polarized illumination light through the polarizer;

(3) modulating the polarization of the polarized illumination light at a reflective imaging device by changing the polarization of selected portions of that light to the first polarization, said selected portions comprising the light which forms the image;

(4) reflecting the selected portions having the first polarization from the polarizer to form image light;

(5) introducing the image light into a prism having a plurality of surfaces;

(6) changing the direction of the image light through total internal reflection at one of the prism's surfaces; and

(7) transmitting the image light to a projection lens to form the image.